FORM PTO-1390 (REV. 1-98) TRANSMITTAL LETTER TO THE UNITED ST 425-763PCT DESIGNATED/ELECTED OFFICE (DO/EO/U\$) 2000 CONCERNING A FILING UNDER 35 U.S.C. 3 INTERNATIONAL APPLICATION NO. INTERNATIONAL FILING DATE PCT/JP98/04366 29 September 1998 29 September TITLE OF INVENTION INFLATOR PROCESSING APPARATUS ANDMETHOD OF JUDGING CHARGE OF INFLATOR APPLICANT(S) FOR DO/EO/US FUKABORI, Mitsuhiko; NAKABAYASHI, Nobuo; SAKAI, Kanshi; SUZUKI, Yasumitsu; YOSHITAKE, Norio; FUJIOKA, Masato Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information: This is a FIRST submission of items concerning a filing under 35 U.S.C. 371. This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371. This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39 (1). A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date A copy of the International Application as filed (35 U.S.C. 371(c)(2)) is transmitted herewith (required only if not transmitted by the International Bureau). has been transmitted by the International Bureau. is not required, as the application was filed in the United States Receiving Office (RO/US). A translation of the International Application into English (35 U.S.C. 371(c)(3)). Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(2)). are transmitted herewith (required only if not transmitted by the International Bureau). have been transmitted by the International Bureau. have not been made; however, the time limit for making such amendments has NOT expired. d. A have not been made and will not be made. A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)). An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)). Items 11. to 16. below concern document(s) or information included: 11. An Information Disclosure Statement under 37 CFR 1.97 and 1.98./International Search Report An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. A FIRST preliminary amendment. A SECOND or SUBSEQUENT preliminary amendment. A substitute specification. A change of power of attorney and/or address letter.

1.) Three (3) Sheets of Formal Drawings

Other items or information:

422 Rec'd PCT/PTO 2 9 MAR 2000

U.S. APPLI€ATION NO (if known, see 37	CFR 1 5)	INTERNATIONAL APPLICATION NO			ATTORNEY'S DOCKET NUMBER		
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17. The following fees	are submitted:			CAL	CULATIONS	PTO USE ONLY	
BASIC NATIONAL		a)(1)-(5):					
Neither international	preliminary examinati	on fee (37 CFR 1.482)					
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PATENT 425-763P

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant:

FUKABORI, Mitsuhiko et al

Int'l. Appl. No.:

PCT/JP98/04366

Appl. No.:

New

Group:

March 29, 2000

Filed:

March 29, 2000

Examiner: UNKNOWN

For:

INFLATOR PROCESSING APPARATUS AND

METHOD OF JUDGING CHARGE OF

INFLATOR

PRELIMINARY AMENDMENT

BOX PATENT APPLICATION

Assistant Commissioner for Patents Washington, DC 20231

March 29, 2000

Sir:

The following Preliminary Amendments and Remarks are respectfully submitted in connection with the above-identified application.

AMENDMENTS

IN THE SPECIFICATION:

Please amend the specification as follows:

Before line 1, insert --This application is the national phase under 35 U.S.C. § 371 of PCT International Application No. PCT/JP98/04366 which has an International filing date of September 29, 1998, which designated the United States of America.--

RCS/sas

425-763P

REMARKS

The specification has been amended to provide a cross-reference to the previously filed International Application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

Raymond

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(Rev. 01/08/2000)

INFLATOR PROCESSING APPARATUS AND METHOD OF JUDGING CHARGE OF INFLATOR

Technical Field:

The present invention relates to an inflator processing apparatus adapted to process a gas generating chemical-containing inflator for an air bag of an automobile by heating the inflator to a temperature not lower than an operating temperature of the chemical and recover a metal case therefor, and to a method of judging the timing of charge of the inflator.

Brief Description of the Drawings:

Fig. 1 is a longitudinal section illustrating one example of an inflator processing apparatus in accordance with this invention.

Fig. 2 is a flow chart illustrating a method of judging the timing of charge of inflators.

Fig. 3 is a longitudinal section illustrating an example of inflator processing by a conventional waste incinerator.

In the figures;

1: inflators;

2: processing furnace;

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3: incinerator;
4, 4a and 4b: furnace wall;
5: sealing valve;
6: charge pusher;
7: charger;
8a, 8b and 8c: partition wall;
9: processing gas supply port;
10: residue discharge port;
11: exhaust tube;
12: burner;
13: air supplier for dilution;
14: waste incinerator;
15: inflator charge port;
16: pressure sensor;
17: peak counter;
20: hopper.
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Background of the Invention:

Installation of air bags has been already made compulsory by laws in U.S. and other countries as safety systems for mitigating impacts on human bodies in case of collisions of automobiles. In Japan, too, there is a high possibility that the installation is made compulsory by laws in the near future.

An inflator is an inflating device for such an air bag. A chemical contained in the inflator is operated by impact occurring at the time of a collision (for example, $2NaN_3 + CuO \rightarrow Na_2O + Cu + 3N_2$), thereby generating an N_2 gas by which the air bag is instantly inflated to protect a passenger(s).

Also, in Japan, new cars equipped with air bags have been recently increasing in number. Since, when those cars equipped with air bags are disposed, a large number of chemical-containing inflators will be generated, it is necessary to operate and process the chemical safely and recover a metal case of the inflator from the standpoints of safety and effective utilization of resources.

However, since, in recent years, those air bags have started to be installed in automobiles, established processing techniques are not available, and it is the present state that experiments are being conducted to search for a processing method, for example, using a conventional waste incinerator 14, as shown in Fig. 3. This waste incinerator 14 includes a furnace shell formed by a furnace wall 4, an inflator charge port 15 for charging inflators 1 into the incinerator 14, a burner 12 for heating and processing the charged inflators 1, a residue discharge port 10 for discharging the processed inflators 1, and an exhaust tube 11 for evacuating the interior of the incinerator.

Generally, an inflator for an air bag contains a gas generating chemical in a metal case made of stainless steel or aluminum. While a size of the inflator is slightly different between one for a driver's and one for a passenger's side, the rough size of metal cases is approximately from ϕ 50 \times H200 mm to ϕ 100 \times H50 mm. The operating temperature of the chemical is normally approximately from 300 to 600°C, though it varies depending upon the presence or absence of an igniter.

However, in case where the chemical-containing inflator is processed in the conventional waste incinerator, there were the following problems:

- (1) Operation of the chemical splashes the inflator or its fragments, thereby damaging a furnace wall refractory of the waste incinerator or the burner.
- (2) Since the burner is directly provided on the waste incinerator, the temperature distribution inside the furnace is made non-uniform by influence of a high-temperature flame, whereby the heating time of the inflator, i.e., the operating time of the chemical, becomes irregular; during a charge work of the inflator, an operation of the chemical occurs; and, in addition, the metal case of the inflator is melted.

Disclosure of the Invention

This invention has been made to solve the foregoing

problems, and its object is to provide an inflator processing apparatus adapted to prevent damage to a furnace wall refractory of an inflator and the melting of a metal case for the inflator during an operation of a chemical in the thermal processing of the inflator containing the gas generating chemical as well as to provide a method of judging the timing of charge of the inflator.

In order to solve the foregoing problems, the gist of this invention lies:

- (1) An inflator processing apparatus adapted to process a gas generating chemical-containing inflator for an air bag of an automobile by heating the inflator to a temperature not lower than an operating temperature of the chemical and recover a metal case therefor, wherein a metal partition wall is provided between an inner surface of a wall of a processing furnace for processing the inflator and the inflator so as to cover the inner surface of the furnace wall;
- (2) An incinerator provided with a burner and an air supplier for dilution and/or an exhaust gas circulator is connected with the processing furnace; and
- (3) The timing of charge of the inflator is judged by comparing the number of charged inflators with the number of peak points of furnace pressure during an operation of the chemical.

[Function]

In the inflator processing apparatus and the method of judging charge of inflators in accordance with this invention, since the metal partition wall is provided between the inner surface of the wall of the processing furnace and the inflator so as to cover the inner surface of the furnace wall, the inflator or its fragments splashed by the operation of the chemical collide against the metal partition wall and drop on a floor of the furnace, so that the furnace wall refractory is not damaged.

Further, since a high-temperature flame is generated in the incinerator connected with the processing furnace of the inflator and mixed with an ordinary-temperature air for dilution or/and a low-temperature exhaust gas to obtain a processing gas temperature slightly higher than the operating temperature of the chemical, and uniform and soft heating of the inflator is carried out by this processing gas, not only the heating time necessary for the processing of the operation of the inflator becomes constant, but also the melting of the metal case of the inflator and high-temperature oxidation of the metal partition wall of the processing furnace due to the processing gas are prevented.

Additionally, since the timing of charge of the inflator is judged by comparing the number of charged inflators with the

number of peaks of furnace pressure during the operation of the chemical, during charge of the inflator, ejection of the gas generated in the furnace due to the operation of the inflator is prevented.

Form to Carry Out the Invention

An embodiment of the present invention is hereinafter described with reference to the drawings.

Fig. 1 is a longitudinal section of an inflator processing apparatus illustrating one embodiment of the invention and a conceptual diagram illustrating a method of judging the timing of charge of the inflator.

As shown in Fig. 1, the inflator processing apparatus is constituted by a processing furnace 2 for processing inflators 1 and an incinerator 3 connected together, and shells of the processing furnace 2 and of the incinerator 3 are formed by furnace walls 4a and 4b, respectively.

Since the furnace walls 4a and 4b are required to have refractoriness, heat insulation, and hermeticity, the outer shells of the furnace walls 4a and 4b are normally made of steel skin, and inner surfaces of the steel skin are lined with a refractory material such as castable ceramic fibers.

A charger 7 constituted by a sealing valve 5 and a charge pusher 6 is provided in a side portion of the wall 4a of the

processing furnace 2, and the inflators 1 are charged intermittently into the processing furnace 2 by the charger 7.

From the standpoint of preventing the ejection of the gas generated in the furnace, it is desired to operate the sealing valve 5 and the charge pusher 6 for a short period of time, and a driving apparatus to be used is generally in a pneumatic driving mode.

Metal partition walls 8a, 8b, and 8c are provided between the inner surface of the inflator 1 charged in the processing furnace 2 and the furnace wall 4a of the processing furnace 2. Since the metal partition walls 8a, 8b, and 8c are required to have heat resistance and heat strength, a heat-resisting steel such as SUS310S is usually used.

Further, a processing gas supply port 9 for heating the inflators and a residue discharge port 10 for the inflators 1 are provided in a lower portion of the processing furnace 2 as well as an exhaust tube 11 for the processing gas after heating the inflators is provided in an upper portion thereof.

On the other hand, a burner 12 is aligned in one terminal side of the incinerator 3, and a fuel and an air for combustion are supplied as well as an air for dilution is supplied into the incinerator 3 from an air supplier for dilution 13 provided in an outer portion of the burner 12.

The incinerator 3 and a furnace bottom portion of the

processing furnace 2 constructed in this way are connected through the processing gas supply port 9, and a processing gas for heating the inflators 1 is supplied into the processing furnace 2 from the incinerator 3.

Next, the operation and function of the inflator processing apparatus in accordance with this invention will be described, together with a method of judging the timing of charge of the inflators.

A fuel and an air for combustion are supplied into the burner 12 of the incinerator 3 to generate a high-temperature flame, and the temperature of this high-temperature flame is adjusted to a processing gas temperature adapted for the processing temperature of the inflators 1 and slightly higher than the operating temperature of the chemical by the air for dilution from the air supplier for dilution 13, and then blown into the furnace bottom portion of the processing furnace 2 from the processing gas supply port 9.

On the other hand, after opening the sealing valve 5 of the charger 7, the charge pusher 6 is operated to charge the inflators 1 into the processing furnace 2, and immediately thereafter, the sealing valve 5 is closed.

Since the inflators 1 charged in the processing furnace

2 are heated uniformly and softly by a low-temperature

processing gas supplied through the processing gas supply port

9, the heating time of the inflators 1 is substantially uniform, and, as a result, the operating time of the chemical is rendered substantially uniform. Also, since the temperature of the processing gas is low, the melting of the metal case of the inflator 1 and high-temperature oxidation of the metal partition walls 8a, 8b, and 8c of the processing furnace 2 are prevented.

Further, since the metal partition walls 8a, 8b, and 8c are provided so as to cover the inner surface of the furnace wall 4a of the processing furnace 2, the inflators 1 and their fragments splashed by the operation of the chemical collide directly against the partition walls 8a, 8b, and 8c and drop on the furnace floor so that the furnace wall 4a is not damaged. Accordingly, a soft furnace material such as ceramic fibers having good heat responsibility can be used as the furnace wall 4a, and it is easy to start up the furnace.

The processing gas after the inflators 1 have been heated is discharged as a low-temperature exhaust gas out of the furnace through the exhaust tube 11.

On the other hand, the residues from the inflators 1 after the heating processing are periodically taken out of the furnace through the residue discharge port 10.

When a large number of inflators 1 are simultaneously charged into the processing furnace 2, the probability of

simultaneous operation of the chemical increases, and as a result, the maximum furnace pressure increases, whereby ejection of the gas generated in the furnace through the sealing portion of the furnace body occurs. Thus, for safety, it is necessary to intermittently charge a few of the inflators 1 into the processing furnace 2.

The timing of intermittent charge of the inflators 1 is determined by the method of judging the timing of charge of the inflators as illustrated in Fig. 2. That is, the number of operations of the chemical is counted with a pressure sensor 16 provided on the processing furnace 2 and with a peak counter 17 for a furnace pressure signal, and only in case where the number of counted peaks of the furnace pressure (i.e., the number of pressure peak points) coincides with the number of charged inflators 1, the next inflators 1 are charged.

As a result, since the chemical is not operated during charge of the inflators, the charging work is safe, and, in addition, an interval of charge of the inflators 1 is a minimum time, thereby maximizing the performance of the processing apparatus.

It is to be understood the present this invention is not limited to the embodiment described above and that, as a matter of course, various changes and modifications can be made therein without departing from the gist of this invention, for example,

as given below.

- (1) The metal partition walls 8a and 8b of the processing furnace 2 are fabricated into a hermetic integral structure, and the furnace wall 4a made of a refractory such as ceramic fibers is formed directly on the outer portion thereof.
- (2) For the adjustment of the temperature of the high-temperature combustion gas generated in the incinerator 3, the exhaust gas from the processing furnace 2 or an air preheated by recovering waste heat from the exhaust gas, thereby reducing the fuel consumption rate.
- (3) The furnace bottom portion of the processing furnace 2 is fabricated into a refractory grid structure, and the processing gas is supplied from a lower portion of the refractory grid, thereby promoting heat transfer to the inflators 1.
- (4) The inflators 1 are heated by an electric heater provided outside the metal partition walls 8a, 8b, and 8c.
- (5) A sealing valve similar to the sealing valve 5 of the charger 7 for the inflators 1 is further provided, for example, inside the hopper 20 to form the double sealing valves, and the pusher 6 is provided between the double sealing valves, thereby preventing ejection of the gas in the furnace during charge of the inflators 1.
 - (6) The furnace bottom portion of the processing furnace

2 can be replaced with an elevatable furnace floor. The processing residues on the furnace floor, which is lowered down, are automatically discharged by the pusher. By pushing up the furnace floor against the main body of the processing furnace 2 by means of a hydraulic unit, etc., the sealing between them is secured.

(7) As measures for the exhaust gas and noise during an operation of the chemical, an exhaust gas processor such as a gas neutralizer or a dust arrester and a silencer (if necessary, an exhauster may be provided together) are provided in the downstream side of the exhaust tube 11.

Advantages of the Invention:

As described above, the inflator processing apparatus and the method of judging the timing of charge of inflators in accordance with the present invention give rise to the following advantages:

- (1) Since the metal partition walls are provided between the inner surface of the furnace wall of the processing furnace and each inflator so as to cover the inner surface of the furnace wall, during an operation of the chemical, damage to the furnace wall refractories due to the inflators or their splashed fragments is prevented.
 - (2) Since the temperature of the high-temperature flame

of the burner as a heating source of the inflators is adjusted by the ordinary-temperature air for dilution or/and the low-temperature exhaust gas, and the lower-temperature processing gas after the temperature adjustment is used for heating inflators softly and uniformly, the heating time up to an operation of the chemical is made uniform as well as the melting of the metal case of the inflator and the high-temperature oxidation of the metal partition walls of the processing furnace due to the processing gas are prevented.

(3) Since the timing of the intermittent charge of the inflators is determined by comparing the number of charged inflators with the number of peaks of the furnace pressure during an operation of the chemical, ejection of the processing gas out of the furnace due to the operation of the chemical is prevented during charge of the inflators. Therefore, not only the charging work is safe, but also the inflators can be subjected to heating and processing in a minimum time, thereby maximizing the performance of the processing apparatus.

Claims

- 1. An inflator processing apparatus adapted to process a gas generating chemical-containing inflator for an air bag of an automobile by heating the inflator to a temperature not lower than an operating temperature of the chemical and recover a metal case therefor, wherein a metal partition wall is provided between an inner surface of a wall of a processing furnace for processing the inflator and the inflator so as to cover the inner surface of the furnace wall.
- 2. The inflator processing apparatus as claimed in Claim 1, wherein an incinerator provided with a burner and an air supplier for dilution or/and an exhaust gas circulator is connected with the processing furnace.
- 3. The inflator processing apparatus as claimed in Claim 1 or 2, wherein the timing of charge of the inflator is judged by comparing the number of charged inflators with the number of peak points of furnace pressure during an operation of the chemical.
- 4. A method of judging the timing of charge of inflators into an inflator processing apparatus adapted to process a gas generating chemical-containing inflator for an air bag of an automobile by heating the inflator to a temperature not lower than an operating temperature of the chemical, wherein the

timing of charge of the inflators is judged by comparing the number of charged inflators with the number of peak points of furnace pressure during an operation of the chemical.

Abstract

To prevent damage to a furnace wall refractory and the melting of a metal case for an inflator during an operation of a chemical in the thermal processing of the inflator containing the gas generating chemical.

An inflator processing apparatus adapted to process a gas generating chemical-containing inflator for an air bag of an automobile by heating the inflator to a temperature not lower than an operating temperature of the chemical, and recover the metal case for the inflator, wherein a metal partition wall is provided between an inner surface of a wall of an inflator processing furnace and the inflator so as to cover the inner surface of the furnace wall.

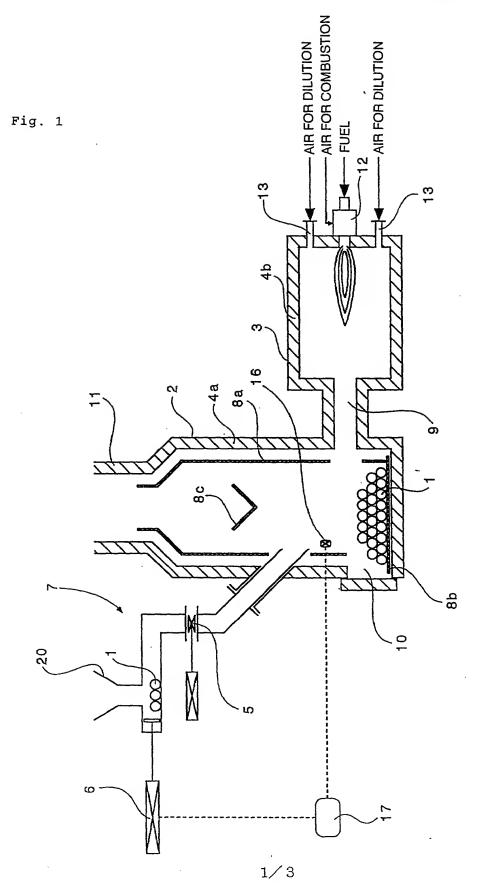


Fig. 2

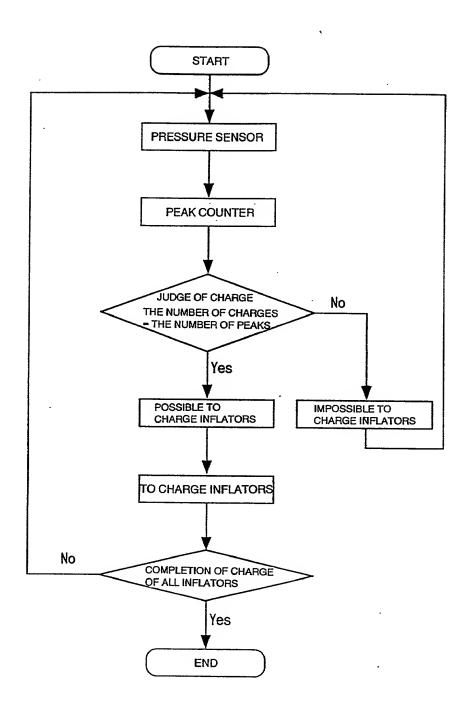
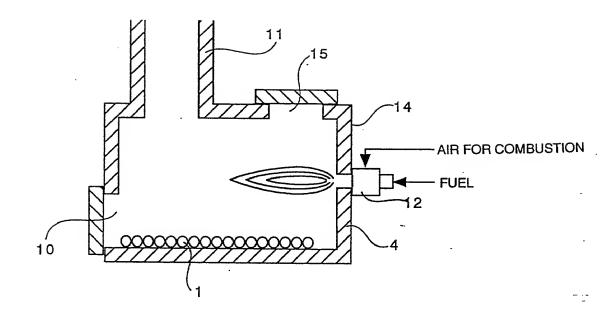


Fig. 3



12060151

S.N. 09/509,571 filed 3/29/0 Attorney Docket No. 425-763P

BIRCH, STEWART, KOLASCH & BIRCH, LLP P.O. Box 747 • Falls Church, Virginia 22040-0747

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COMBINED DECLARATION AND POWER OF ATTORNEY FOR PATENT AND DESIGN APPLICATIONS

As a below named inventor, I hereby declare that: my residence, post office address and citizenship are as stated next to my name; that I verily believe that I am the original, first and sole inventor (if only one inventor is named below) or an original, first and joint inventor (if plural inventors are named below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Insert Title:	INFLATOR PROCESSING APPARATUS AND METHOD OF JUDGING CHARGE OF INFLATOR							
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	All Foreign Applications, if any, for any Patent or Inventor's Certificate Filed More than 12 Months (6 Months for Designs) Prior to the Filing Date of This Application:							
	Country		Application Number	Γ	Date of Filing (Month	n/Day/Year)		
Insert Requested Information: (if appropriate)								
	I hereby claim the benefit under Title 35, United States Code, §120 of any United States and/or PCT application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States and/or PCT application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose information which is material to the patentability as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.							
Insert Prior U.S. Application(s): (if any)	(Application Number	r)	(Filing Date)	(1	Status - patented, p	ending, aban	doned)	
David 1 - 50	(Application Number	r)	(Filing Date)		Status - patented, p	ending, aban	doned)	

I hereby appoint the following attorneys to prosecute this application and/or an international application based on this application and to transact all business in the Patent and Trademark Office connected therewith and in connection with the resulting patent based on instructions received from the entity who first sent the application papers to the attorneys identified below, unless the inventor(s) or assignee provides said attorneys with a written notice to the contrary:

(Reg. No. 19,382) (Reg. No. 28,380) (Reg. No. 21,066) Terrell C. Birch Raymond C. Stewart (Reg. No. 22,463) James M. Slattery Joseph A. Kolasch (Reg. No. 29,680) (Reg. No. 24,448) Michael K. Mutter Bernard L. Sweeney (Reg. No. 29,271) (Reg. No. 28,977) Gerald M. Murphy, Jr. Charles Gorenstein (Reg. No. 32,644) (Reg. No. 32,181) (Reg. No. 30,330) Terry L. Clark Leonard R. Svensson (Reg. No. 32,868) (Reg. No. 32,334) Marc S. Weiner Andrew D. Meikle (Reg. No. 34,313) Donald J. Daley Joe McKinney Muncy (Reg. No. 35,094) John A. Castellano (Reg. No. 32,881) John W. Bailey (Reg. No. 35,416) Gary D. Yacura

Send Correspondence to:

BIRCH, STEWART, KOLASCH & BIRCH, LLP or

Customer No. 2292

P.O. Box 747 • Falls Church, Virginia 22040-0747

Telephone: (703) 205-8000 • Facsimile: (703) 205-8050

PLEASE
NOTE:
YOU MUST
COMPLETE
THE
FOLLOWING:

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*			
Mitsuhiko <u>FUKABORI</u>	Mitsuhiko Fukator	w l	APR 18,2000			
Residence (City, State & Country)		CITIZENSHIP	•			
Hyogo, Japan		Japanese				
		ountry)				
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GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE	, .	DATE*			
Nobuo NAKABAYASHI	Nobuo Nakabaya	shi 1	APR 18,2000			
Residence (City, State & Country)	,	CITIZENSHIP	,			
Osaka, Japan		Japanese				
		ountry)				
153, Moriya, Chihaya-Akasakamura, Minam	ikawachi-gun, Osaka, Japan					
GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*			
Kanshi SAKAI						
Residence (City, State & Country)	<i>y</i>		P			
Toyota-shi, Aichi, Japan		-				
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GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*			
Yasumitsu SUZUKI		CITTATE				
Residence (City, State & Country)	1		۲			
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GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE	İ	DATE*			
Norio YOSHITAKE		OWNER				
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Kitakyushu City, Fukuoka, Japan	11/20/20/20/20/20/20/20/20/20/20/20/20/20/	1 -				
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c/o Nippon Steel Corporation 46-59, Oaza-N	vakabaru, robata-ku, kitakyush	u Oily, FuKuO	na, vapan			
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Page 2 of 2 (Rev. 01/05/2000)

*DATE OF SIGNATURE

Full Name of Sixth Inventor, if any.	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*
above	Masato FUJIOKA			
~	Residence (City, State & Country)	-0 V	CITIZENSHI	P
	Kitakyushu-shi, Fukuoka, Japan	SP X	Japanese	
	POST OFFICE ADDRESS (Complete Street	Address including City, State & C	Country)	
	c/o Kyuchiku Kogyo KK, 9-10, Sanno 1-ch	ome, Yahatahigashi-ku, Kıtakyus	shu-shi, Fukuo	ka, Japan
Full Name of Seventh Inventor, if any.	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*
above see				
	Residence (City, State & Country)		CITIZENSHI	P
	POST OFFICE ADDRESS (Complete Street	Address including City, State & O	Country)	
Full Name of Eighth Inventor, if any.	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*
see above				
	Residence (City, State & Country)		CITIZENSHI	P
	POST OFFICE ADDRESS (Complete Street	Address including City, State & O	Country)	
- Consideration of the Conside				
Faull Name of Ninth Inventor, if any:	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*
see above				
	Residence (City, State & Country)		CITIZENSHI	Р
N COLUMN				
H. Burgar	POST OFFICE ADDRESS (Complete Street	Address including City, State & C	Country)	
- British				
Full Name of Tenth Inventor, if any: see above	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*
above				
The state of the s	Residence (City, State & Country)		CITIZENSHI	P
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Table 1	POST OFFICE ADDRESS (Complete Street	Address including City, State & C	Country)	
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. Inventor, if any see	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*
above	Posidon so (City Otata & Country)		Company	
	Residence (City, State & Country)		CITIZENSHI	r
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Full Name of Twelfth	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*
Inventor, if any. see above	GIVEN MAND/ MINIDI MAND	HAVENTOKS SIGNATORE		DAIE
	Residence (City, State & Country)		CITIZENSHI	P
	(oil), side a country			-
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Page 3 of 3 (Rev. 01/05/2000)

*DATE OF SIGNATURE

Attorney Docket No. 425-763P

BIRCH, STEWART, KOLASCH & BIRCH, LLP P.O. Box 747 • Falls Church, Virginia 22040-0747

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Telephone: (703) 205-8000 • Facsimile: (703) 205-8050

COMBINED DECLARATION AND POWER OF ATTORNEY FOR PATENT AND DESIGN APPLICATIONS

INFLATOR PROCESSING APPARATUS AND METHOD OF JUDGING CHARGE OF INFLATOR

As a below named inventor, I hereby declare that: my residence, post office address and citizenship are as stated next to my name; that I verily believe that I am the original, first and sole inventor (if only one inventor is named below) or an original, first and joint inventor (if plural inventors are named below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Insert Title:	INFLATOR PROCESS	SING APPARAT	US AND METHOD OF J	UDGING CHARGE OF INFLA	ror			
Fill in Appropriate	the specification of which is attached hereto. If not attached hereto, the specification was filed on							
Information -	the specification	was filed on _				as		
For Use Without	United States Ap	oplication Num	ber		(if annliaghle)	and/or		
Specification	and amended or	1	t		(n applicable)	and/or		
Attached:	ine specification	was med on <u>s</u>	per PCT / IPOS /04366			nd was		
	amended under	DCT Article 19	on		(if apr	olicable)		
	I hereby state that I have reviewed and understand the contents of the above-identified specification, included claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Federal Regulations, §1.56. I do not know and do not believe the same was ever known or used in the United States of America before our invention thereof, or patented or described in any printed publication in any country before my or our in thereof or more than one year prior to this application, that the same was not in public use or on sale in the States of America more than one year prior to this application, that the invention has not been patented or m subject of an inventor's certificate issued before the date of this application in any country foreign to the United of America on an application filed by me or my legal representative or assigns more than twelve months (six more designs) prior to this application, and that no application for patent or inventor's certificate on this invention h filed in any country foreign to the United States of America prior to this application by me or my legal representative or assigns, except as follows. I hereby claim foreign priority benefits under Title 35, United States Code, §119(a)-(d) of any foreign applic for patent or inventor's certificate listed below and have also identified below any foreign application for patin to retrificate having a filing date before that of the application on which priority is claimed:							
	Prior Foreign Appl	ication(s)			Priority C	laimed		
Friert Priority	0/264574	Janan		September 29 1997				
Information:	9/264574 (Number)	(Country)	·	September 29, 1997 (Month/Day/Year Filed)	Yes	No		
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SECURIORISMO SE	(Number)	(Country)	· · · · · · · · · · · · · · · · · · ·	(Month/Day/Year Filed)	Yes	No		
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	I hereby claim the blisted below.	enefit under T	itle 35, United States C	ode, §119(e) of any United St				
Insert Provisional Application(s):	(Application Number	r)		(Filing Date)	•			
(if any)	(pp==================================	• ,		(
	(Application Number	<u>-</u>		(Filing Date)		·····		
	All Foreign Applications, if any, for any Patent or Inventor's Certificate Filed More than 12 Months (6 Months for Designs) Prior to the Filing Date of This Application:							
	Country		Application Number	Date of Filing	(Month/Day/Year)			
Insert Requested Information: (if appropriate)								
	listed below and, in United States and/6 \$112. Lacknowledge	isofar as the si or PCT applica the duty to di ons, §1.56 whice	ubject matter of each o tion in the manner pro sclose information whic ih became available bet	Code, §120 of any United St f the claims of this applicative wided by the first paragraph of the is material to the patentable ween the filing date of the pri	on is not disclosed of Title 35, United lity as defined in T	in the prior States Code, itle 37. Code		
Insert Prior U.S. Application(s): (if any)	(Application Number	r)	(Filing Date)	(Status - pater	nted, pending, aban	idoned)		
Page 1 of 2	(Application Numbe	r)	(Filing Date)	(Status - pater	nted, pending, abar	ndoned)		

I hereby appoint the following attorneys to prosecute this application and/or an international application based on this application and to transact all business in the Patent and Trademark Office connected therewith and in connection with the resulting patent based on instructions received from the entity who first sent the application papers to the attorneys identified below, unless the inventor(s) or assignee provides said attorneys with a written notice to the contrary.

Raymond C. Stewart Joseph A. Kolasch Bernard L. Sweeney Charles Gorenstein Leonard R. Svensson Andrew D. Meikle Joe McKinney Muncy John W. Bailey	(Reg. No. 21,066) (Reg. No. 22,463) (Reg. No. 24,448) (Reg. No. 29,271) (Reg. No. 30,330) (Reg. No. 32,868) (Reg. No. 32,334) (Reg. No. 32,881)	Terrell C. Birch James M. Slattery Michael K. Mutter Gerald M. Murphy, Jr. Terry L. Clark Marc S. Weiner Donald J. Daley John A. Castellano	(Reg. No. 19,382) (Reg. No. 28,380) (Reg. No. 29,680) (Reg. No. 32,644) (Reg. No. 32,181) (Reg. No. 34,313) (Reg. No. 35,094)
Gary D. Yacura	(Reg. No. 35,416)		

Send Correspondence to:

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Customer No. 2292

P.O. Box 747 • Falls Church, Virginia 22040-0747 Telephone: (703) 205-8000 • Facsimile: (703) 205-8050

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

DATE* INVENTOR'S SIGNATURE GIVEN NAME/FAMILY NAME **FUKABORI** Mitsuhiko CITIZENSHIP Residence (City, State & Country) Japanese Hyogo, Japan POST OFFICE ADDRESS (Complete Street Address including City, State & Country) 90-38, Shinzaike, Ibogawa-cho, Ibo-gun, Hyogo, Japan DATE* INVENTOR'S SIGNATURE GIVEN NAME/FAMILY NAME Nobuo NAKABAYASHI CITIZENSHIP Residence (City, State & Country) Japanese Osaka, Japan POST OFFICE ADDRESS (Complete Street Address including City, State & Country) 153, Moriya, Chihaya-Akasakamura, Minamikawachi-gun, Osaka, Japan DATE* INVENTOR'S SIGNATURE GIVEN NAME/FAMILY NAME APR 10,2000 Kanshi SAKAI CITIZENSHIP Residence (City, State & Country) Japanese Toyota-shi, Aichi, Japan POST OFFICE ADDRESS (Complete Street Address including City, State & Country) c/o Toyota Jidosha Kabushiki Kaisha, 1, Toyotacho, Toyota-shi, Aichi, Japan DATE* GIVEN NAME/FAMILY NAME INVENTOR'S SIGNATURE APR 10,2000 Yasumitsu SUZUKI lasumissu CITIZENSHIP Residence (City, State & Country) Japanese Toyota-shi, Aichi, Japan POST OFFICE ADDRESS (Complete Street Address including City, State & Country) c/o Toyota Jidosha Kabushiki Kaisha, 1, Toyotacho, Toyota-shi, Aichi, Japan INVENTOR'S SIGNATURE DATE* GIVEN NAME/FAMILY NAME Norio YOSHITAKE CITIZENSHIP Residence (City, State & Country) Japanese Kitakyushu City, Fukuoka, Japan POST OFFICE ADDRESS (Complete Street Address including City, State & Country) c/o Nippon Steel Corporation 46-59, Oaza-Nakabaru, Tobata-ku, Kitakyushu City, Fukuoka, Japan

PLEASE NOTE: YOU MUST COMPLETE THE FOLLOWING:

Full Name of First of Sole Inventor: insert Name of Hivernor insert Name of Hivernor insert Name of Hivernor insert Citizenship insert Residence Insert Citizenship insert Post Office Address

Full Name of Second Inventor, if any:

See above

Full Name of Third Inventor, if any:

See above

Full Name of Fourth Inventor, if any:

Full Name of Fifth Inventor, if any: see above

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٠.	•	,	Attorne	ey Docket No. 42	
of Sixth if any	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*	
	Masato FUJIOKA				
	Residence (City, State & Country)		CITIZENSI	IIP	
	Kitakyushu-shi, Fukuoka, Japan		Japanese		
	POST OFFICE ADDRESS (Complete Str		= -		
	c/o Kyuchiku Kogyo KK, 9-10, Sanno 1		shu-shi, Fuku	ioka, Japan	
Seventh if any see	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*	
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Tenth	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*	
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Eleventh	CIVEN NAME (CAMILY NAME)	INTENTACIO OLOMATICO		DAMEH	
f any [.] see	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*	
	Residence (City, State & Country)		CITIZENSI	HIP	
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Twelfth if any	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*	
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sec	Residence (City, State & Country)	L	CITIZENSI	HIP	

Page 3 of 3 (Rev. 01/05/2000)

^{*}DATE OF SIGNATURE

s.n. 09750955 filed 03/29/00

Attorney Docket No. 425-763P

BIRCH, STEWART, KOLASCH & BIRCH, LLP P.O. Box 747 • Falls Church, Virginia 22040-0747

PLEASE NOTE: YOU MUST COMPLETE THE FOLLOWING

Telephone: (703) 205-8000 • Facsimile: (703) 205-8050

COMBINED DECLARATION AND POWER OF ATTORNEY FOR PATENT AND DESIGN APPLICATIONS

As a below named inventor, I hereby declare that: my residence, post office address and citizenship are as stated next to my name; that I verily believe that I am the original, first and sole inventor (if only one inventor is named below) or an original, first and joint inventor (if plural inventors are named below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Insert Title:	INFLATOR PROCESS	SING APPARATU	JS AND METHOD OF .	UDGING CHA	RGE OF INFLATOR			
Fill in Appropriate Information -	the specification of w	hich is attache was filed on _	d hereto. If not attache	d hereto,			as	
For Use Without	United States A	pplication Num	ber			CC 1: 11.	;	
Specification	and amended of	n	1 1 00 1007			_ (ir applicable)	and/or	
Attached:	the specification	was filed on So	eptember 29, 1997			. 9	nd was	
	amended under	PCT Article 19	on			(if applicable) and/or as PCT ; and was (if applicable)		
	l acknowledge (Federal Regulations,	by any amendn he duty to disc §1.56.	wed and understand the nent referred to above. close information which we the same was ever	n is material t	o patentability as o	lefined in Title es of America b	37, Code of	
	our invention thereof, or patented or described in any printed publication in any country before my or our thereof or more than one year prior to this application, that the same was not in public use or on sale in States of America more than one year prior to this application, that the invention has not been patented or subject of an inventor's certificate issued before the date of this application in any country foreign to the Un of America on an application filed by me or my legal representative or assigns more than twelve months (six in designs) prior to this application, and that no application for patent or inventor's certificate on this invention filed in any country foreign to the United States of America prior to this application by me or my legal representative or assigns, except as follows.							
TO THE STATE OF TH	I hereby claim i	oreign priority	benefits under Title 35 listed below and have date before that of the	also identifie	d below any foreig	n application ic	pplication(s) or patent or	
B :	Prior Foreign App	lication(s)				Priority C	laimed	
Insert Priority	9/264574	Japan		September :	29. 1997	\boxtimes		
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	All Foreign Applications, if any, for any Patent or Inventor's Certificate Filed More than 12 Months (6 Months for Designs) Prior to the Filing Date of This Application:							
	Country		Application Number		Date of Filing (Mo	nth/Day/Year)		
Insert Requested Information: (if appropriate)								
	listed below and, in United States and/ §112, I acknowledg	nsofar as the su or PCT applicate the duty to di ons, §1.56 whic	Fitle 35, United States abject matter of each of the manner proscure in the manner proscuse information which became available bethis application.	of the claims of wided by the f ch is material	of this application i irst paragraph of T to the patentability	s not disclosed itle 35, United as defined in T	in the prior States Code, itle 37, Code	
Insert Prior U.S. Application(s): (if any)	(Application Number	er)	(Filing Date)		(Status - patented	l, pending, abar	ndoned)	
Page 1 of 2	(Application Number	er)	(Filing Date)		(Status - patented	l, pending, abar	idoned)	

I hereby appoint the following attorneys to prosecute this application and/or an international application based on this application and to transact all business in the Patent and Trademark Office connected therewith and in connection with the resulting patent based on instructions received from the entity who first sent the application papers to the attorneys identified below, unless the inventor(s) or assignee provides said attorneys with a written notice to the contrary. to the contrary:

Charles Gorenstein (Reg. No. 29,271) Generated R. Svensson (Reg. No. 30,330) Tenerated R. Svensson (Reg. No. 32,868) M. Joe McKinney Muncy (Reg. No. 32,334) De	ichael K. Mutter erald M. Murphy, Jr. erry L. Clark larc S. Weiner onnald J. Daley ohn A. Castellano (Reg. No. 29,680) (Reg. No. 28,977) (Reg. No. 32,644) (Reg. No. 32,181) (Reg. No. 34,313) (Reg. No. 35,094)
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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*		
Yasumitsu SUZUKI					
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POST OFFICE ADDRESS (Complete Street	Address including City, State & C	ountry)			
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GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE	1	DATE*		
Norio YOSHITAKE	Morio Yoshi tak	<u>e</u>	APR 4, 2000		
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PLEASE NOTE: YOU MUST COMPLETE THE FOLLOWING:

1 Full Name of Second run Name of Second inventor, if any: see Full Name of Third Inventor, if any:

ill Name or row. Inventor, if any: see Full Name of Fourth

Full Name of Fifth Inventor, if any:

Full Name of Sixth	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*				
Inventor, if any see above	Masato FUJIOKA							
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Full Name of Seventh	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*				
Inventor, if any see above	GIVEN MARIEN, A ARREST TO THE	MIT DATE OF THE PROPERTY OF TH						
aoove	Residence (City, State & Country)		CITIZENSHI	IP				
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	POST OFFICE ADDRESS (Complete Street A	Address including City, State & (Country)					
Full Name of Eighth Inventor, if any:	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*				
above								
	Residence (City, State & Country)		CITIZENSHI	IP				
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	POST OFFICE ADDRESS (Complete Street Address including City, State & Country)							
Full Name of Ninth Inventor, if any	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*				
above see								
	Residence (City, State & Country)		CITIZENSHI	IP				
4	POST OFFICE ADDRESS (Complete Street Address including City, State & Country)							
Full Name of Tenth Inventor, if any	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*				
above see								
	Residence (City, State & Country)		CITIZENSH	IP				
# #	POST OFFICE ADDRESS (Complete Street Address including City, State & Country)							
# 때								
Full Name of Eleventh Inventor, if any.	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*				
see above								
	Residence (City, State & Country)		CITIZENSH	IP				
	POST OFFICE ADDRESS (Complete Street Address including City, State & Country)							
Full Name of Twelfth Inventor, if any	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*				
see								
	Residence (City, State & Country)		CITIZENSH	IP				
	POST OFFICE ADDRESS (Complete Street	Address including City, State &	Country)					

Page 3 of 3 (Rev. 01/05/2000)

*DATE OF SIGNATURE

98060751

Attorney Docket No. 425-763F

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COMBINED DECLARATION AND POWER OF ATTORNEY FOR PATENT AND DESIGN APPLICATIONS

As a below named inventor, I hereby declare that: my residence, post office address and citizenship are as stated next to my name; that I verily believe that I am the original, first and sole inventor (if only one inventor is named below) or an original, first and joint inventor (if plural inventors are named below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

nsert Title:	INFLATOR PROCE	SSING APPAR	ATUS AND METHOD OF J	UDGING CHARGE OF INFLATO	R			
Fill in Appropriate	riate the specification of which is attached hereto. If not attached hereto, the specification was filed on United States Application Number (if applicable)							
For Use Without Specification Attached:	and amended the specificati International amended und	on ion was filed or Application Nu ler PCT Article	n <u>September 29, 1997</u> nmber <u>PCT/JP98/04366</u> 19 on		(if applicable) ; a (if app	as PCT nd was licable)		
	claims, as amende I acknowledg Federal Regulation I do not know our invention the thereof or more the States of America subject of an inve of America on an designs) prior to to filed in any count or assigns, except I hereby clair	ed by any amere the duty to one, §1.56. v and do not breof, or patente an one year pmore than on tor's certificat application file his application ry foreign to the as follows.	ndment referred to above. disclose information which elieve the same was ever led or described in any pririor to this application, the year prior to this application the issued before the date of dby me or my legal repression, and that no application is United States of Americally benefits under Title 35, and believed below and have	e contents of the above-identified a is material to patentability as mown or used in the United Stanted publication in any country at the same was not in public ution, that the invention has not this application in any country entative or assigns more than two patent or inventor's certificate a prior to this application by me United States Code, §119(a)-(d) also identified below any foreign application on which priority is considered.	defined in Title tes of America b before my or or use or on sale in been patented o foreign to the Uselve months (six e on this inventic or my legal rep of any foreign a m application follaimed:	af, Code of refore my or invention the United or made the nited States months for on has been resentatives pplication(s) or patent or		
-	Prior Foreign Ap	plication(s)			Priority C	laimed		
Insert Priority Information: (if_appropriate)	9/264574 (Number)	Japan (Count	ry)	September 29, 1997 (Month/Day/Year Filed)	⊠ Yes	No		
	(Number)	(Count	ry)	(Month/Day/Year Filed)	Yes	No		
The second secon	(Number)	(Count	ту)	(Month/Day/Year Filed)	Yes	No		
	(Number)	(Count		(Month/Day/Year Filed) ode, §119(e) of any United State	Yes	No		
	listed below.	e benent ander						
Insert Provisional Application(s): (if any)	(Application Num	ber)		(Filing Date)	No.			
	(Application Number) (Filing Date)							
	All Foreign Applications, if any, for any Patent or Inventor's Certificate Filed More than 12 Months (6 Months for Designs) Prior to the Filing Date of This Application:							
	Country		Application Number	Date of Filing (Mo	onth/Day/Year)			
Insert Requested Information: (if appropriate)			,					
,	listed below and, United States an §112, I acknowle of Federal Regula	insofar as the d/or PCT appl dge the duty to tions, §1.56 w	e subject matter of each o ication in the manner pro o disclose information whic	Code, §120 of any United State f the claims of this application wided by the first paragraph of the is material to the patentability ween the filing date of the prior	is not disclosed Fitle 35, United : 7 as defined in Ti	in the prior States Code, itle 37, Code		
Insert Prior U.S. Application(s): (if any)	(Application Num	ber)	(Filing Date)	(Status - patente	d, pending, abar	idoned)		
Page 1 of 2	(Application Num	ber)	(Filing Date)	(Status - patente	d, pending, abar	ndoned)		

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Joseph A. Kolasch	(Reg. No. 22,463)		(Reg. No. 28,380)
Bernard L. Sweeney	(Reg. No. 24,448)		(Reg. No. 29,680)
Charles Gorenstein	(Reg. No. 29,271)		(Reg. No. 28,977)
Leonard R. Svensson	(Reg. No. 30,330)		(Reg. No. 32,644)
Andrew D. Meikle	(Reg. No. 32,868)		(Reg. No. 32,181)
Joe McKinney Muncy	(Reg. No. 32,334)		(Reg. No. 34,313)
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GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*		
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GIVEN NAME/FAMILY NAME			DATE*		
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Residence (City, State & Country)	J	CITIZENSHII	P		
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Kanshi SAKAI	<u> </u>	CITIZENSHI	<u>L</u>		
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GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE		DATE*		
Norio YOSHITAKE					
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Kitakyushu City, Fukuoka, Japan		Japanese	Japanese		
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Full Name of First of Sole Inventor: Insert Name of Haventor

Insert Date This
Document is
Signed
Insert Residence
Insert Citizenship

Insert Post Office

Full Name of Second

Full Name of Third Inventor, if any:

Full Name of Fourth Inventor, if any:

PLEASE

Full Name of Fifth Inventor, if any:

*DATE OF SIGNATURE

Full Name of Sixth Inventor, if any:	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE	DATE*			
above	Masato FUJIOKA	Masata Fujiok	1			
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Full Name of Seventh Inventor, if any.	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE	DATE*			
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	Residence (City, State & Country)	ity, State & Country)				
	POST OFFICE ADDRESS (Complete Street Address including City, State & Country)					
Full Name of Eighth	CHURN NAME (DANIES NAME	THE WHITE DIG CLOSE AND LIDE				
Inventor, if any: see above	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE	DATE*			
	Residence (City, State & Country)		CITIZENSHIP			
	POST OFFICE ADDRESS (Complete Street Address including City, State & Country)					
Full Name of Ninth	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE	DATE*			
inventor, if any: see	GIVEN IVERENTIALES TREATE	inversions significant				
ACTION INC.	Residence (City, State & Country)		CITIZENSHIP			
	3,					
Secretary of the secret	POST OFFICE ADDRESS (Complete Street Address including City, State & Country)					
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Full Name of Tenth Inventor, if any: see	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE	DATE*			
1 2 1 2 1 2 1 2 1 2 2 2 2 2 2 2 2 2 2 2	Residence (City, State & Country)	CITIZENSHIP				
G. C.	POST OFFICE ADDRESS (Complete Street Address including City, State & Country)					
Full Name of Eleventh Inventor, if any: see above	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE	DATE*			
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	` •	3 ,,				
Full Name of Twelfth Inventor, if any.	GIVEN NAME/FAMILY NAME	INVENTOR'S SIGNATURE	DATE*			
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*DATE OF SIGNATURE